CLAIMS:

1. A method, adaptable for performing presbyopic correction, in which a portion of the sclera tissue is removed by steps of :

(a) selecting a laser having a predetermined wavelength ;

(b) selecting a beam spot controller mechanism to reduce and focus said laser to a fiber delivery unit;

(c) controlling the said fiber delivery unit to deliver said laser in a predetermined pattern onto a plurality of positions on the scleral surface to remove portion of the sclera tissue outside the limbus area, whereby a presbyopic patient's vision is corrected to see near by increasing the accommodation of an eye.

2. A method of claim 1, wherein said laser is an ultraviolet laser having a wavelength range of about (0.15 - 0.36) microns and a pulse duration less than about 200 nanoseconds.

3. A method of claim 1, wherein said laser is an infrared laser having a wavelength range of about (1.4 - 3.2) microns.

4. A method of claim 3, wherein infrared laser is an optically pumped Erbium:YAG laser having a wavelength of about 2.9 microns.

5. A method of claim 1, wherein said laser is an ArF excimer laser having a wavelength of 193 nm.

6. A method of claim 1, wherein said laser is a XeCl excimer laser having a wavelength of 308 nm.

7. A method of claim 1, wherein said laser is a solid state diode laser having a wavelength range of about (0.95 – 2.1) microns.

8. A method of claim 1, in which said beam spot controller consists of at least one focusing spherical lens to couple the said laser beam to the said fiber delivery unit.

9. A method of claim 1, wherein said fiber delivery unit consists of an optical fiber having a length of about (0.5 - 1.5) meter and core diameter of about (0.2 - 0.8) mm and a hand piece connected to a fiber tip.

10. A method of claim 9, wherein said fiber delivery unit is substantially transparent to the wavelength of the said laser beam.

11. A method of claim 9, wherein said fiber tip is made of a similar material as that of the fiber and is made in one of the following shapes to focus the said laser beam onto the treated sclera area of the eye: conical, spherical, 90-degree reflecting angle and flat end.

12. A method of claim 9, wherein said fiber tip focuses the said laser beam onto the treated area of the eye at a spot size of about (0.1 - 0.5) mm in diameter.

13. A method of claim 9, wherein said fiber tip is made in a cylinder shape to focus the said laser beam onto the treated area of the eye at a line shape having a dimension of about (0.1 - 0.4) in width and (0.5 - 4.0) mm in length.

14. A method of claim 9, wherein said fiber tip is operated in a contact-mode to ablate the sclera tissue to a depth of about (300 - 800) microns.

15. A method of claim 9, wherein said fiber tip is operated in a non-contact mode to ablate the sclera tissue to a depth of about (300 - 800) microns.

16. A method of claim 1, wherein said fiber delivery unit is controlled by the surgeon to perform a predetermined patterns outside the limbus by manually moving the fiber tip in the radial direction of the cornea.

17. A method of claim 1, wherein said fiber delivery unit is attached to a scanning device to perform said predetermined patterns outside the limbus of the cornea and scan said laser beam along the radial direction of the cornea.